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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,226	12/17/2001	Harry Hedler	MAS-FIN-193	4181

7590 03/03/2004

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EXAMINER

BEREZNY, NEMA O

ART UNIT	PAPER NUMBER
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2813

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,226

Applicant(s)

HEDLER ET AL.

Examiner

Nema O Berezny

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 15-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-2, 4-5, 7-9, 11-12, and 14 are rejected under 35 U.S.C. 102(a) as being anticipated by Palagonia (5,874,782). Palagonia discloses an electronic component, comprising: an electronic circuit (Fig.3A el.36) having a first surface; electrical contacts (el.40) at least on said first surface for electrical bonding of said electronic circuit; at least one elevation (el.32) disposed on said first surface, said at least one elevation having an elevation surface and an interior and a contact zone, said at least one elevation being formed of an insulating material having sufficient flexibility to absorb stresses occurring in said contact zone as a result of at least one of the group consisting of thermal loading and mechanical loading (col.5 lines 3-5); at least one of said electrical contacts (el.34) disposed on said at least one elevation; and a conduction path (el.44) disposed on said elevation surface between said at least one of said electrical contacts and said electronic circuit [**claims 1, 8**]. Palagonia also discloses an elastic insulating layer (el.42) [**claims 4, 11**] at least partially covering said first surface and adjoining said at least one elevation; and conductor runs (el.44) disposed on said insulating layer and forming a conducting connection between said at least one

elevation and said electronic circuit [**claims 2, 9**]; wherein the electronic component is a semiconductor component (col.4 lines 46-48) [**claims 5, 12**]; and wherein at least one of said electrical contacts is formed by one of the group consisting of a conducting layer, a conducting pin, and a conducting ball (col.5 lines 17-28) [**claims 7, 14**].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palagonia as applied to claims 1-2, 4-5, 7-9 above, and further in view of Chen et al. (5,910,687). Palagonia does not disclose an insulating layer at least partially covering said at least one elevation. However, Chen discloses an insulating layer at least partially covering said at least one elevation (Fig.11 el.321). Therefore, it would have been obvious to a person skilled in the art at the time of the invention to use the insulating layer of Chen with the electronic component of Palagonia in order to increase the reliability of the contact layer (col.10 lines 43-54).

Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palagonia as applied to claims 1-2, 4-5, 7-9, and 11-12 above, and further in view of Lee et al. (6,140,456). Palagonia does not disclose a polymer component. However,

Lee discloses wherein the electronic component is a polymer component (col.1 lines 25-31; col.4 lines 29-42). Therefore, it would have been obvious to a person skilled in the art at the time of the invention to use the polymer component of Lee with the electronic component of Palagonia in order to form a thin film of material with a low dielectric constant (col.4 lines 35-42; col.5 lines 24-42).

Response to Arguments

Applicant's arguments filed 1-15-04 have been fully considered but they are not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the size, shape, and material of the flexible elevations) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In addition, Applicant's specification discloses on page 22 lines 15-17 that the flexible elevation does not have to meet any special geometrical shaping requirements as long as an elastic element is used. Applicant's specification (p.22 lines 18-22) also discloses that the bump should not run at a right angle to the chip, which Palagonia discloses in Figs.3A-3B.

Applicant alleges that Palagonia discloses that the height and material of the bump (32) is unimportant (col.5 lines 13-16; col.6 lines 13-19). Examiner disagrees. Col.5 lines 13-16 disclose that the material and method of formation of the bump 32 **can vary**, which is very different than to say said material and said method are unimportant.

Col.6 lines 13-19 discloses selecting a bump height so that it is above surface conductors and will not make unintended contact with a surface conductor; i.e. Palagonia is saying that height **is** important.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a roughened flexible elevation surface, and improved metal adhesion to the flexible elevation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant contends that the elevations of Palagonia do not have sufficient flexibility to absorb stresses as claimed. Examiner disagrees. Palagonia discloses insulative elevations, which will have some degree of relieving applied mechanical stresses.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nema O Berezny whose telephone number is (571) 272-1686. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NB


JACK CHEN
PRIMARY EXAMINER